

# DISSOCIATIVE DISORDERS

---

John F. Kihlstrom

*Department of Psychology, University of California, Berkeley,  
California 94720-1650; email: kihlstrm@socrates.berkeley.edu*

**Key Words** amnesia, fugue, multiple personality, trauma, memory, identity

■ **Abstract** The dissociative disorders, including “psychogenic” or “functional” amnesia, fugue, dissociative identity disorder (DID, also known as multiple personality disorder), and depersonalization disorder, were once classified, along with conversion disorder, as forms of hysteria. The 1970s witnessed an “epidemic” of dissociative disorder, particularly DID, which may have reflected enthusiasm for the diagnosis more than its actual prevalence. Traditionally, the dissociative disorders have been attributed to trauma and other psychological stress, but the existing evidence favoring this hypothesis is plagued by poor methodology. Prospective studies of traumatized individuals reveal no convincing cases of amnesia not attributable to brain insult, injury, or disease. Treatment generally involves recovering and working through ostensibly repressed or dissociated memories of trauma; at present, there are few quantitative or controlled outcome studies. Experimental studies are few in number and have focused largely on state-dependent and implicit memory. Depersonalization disorder may be in line for the next “epidemic” of dissociation.

## CONTENTS

|  |     |
|--|-----|
| DISSOCIATIVE DISORDERS . . . . .                       | 227 |
| DIAGNOSIS, ASSESSMENT, AND EPIDEMIOLOGY . . . . .      | 229 |
| ETIOLOGY OF DISSOCIATIVE DISORDER . . . . .            | 231 |
| THE TRAUMA-MEMORY ARGUMENT . . . . .                   | 233 |
| TREATMENT OF DISSOCIATIVE DISORDERS . . . . .          | 235 |
| EXPERIMENTAL PSYCHOPATHOLOGY OF DISSOCIATION . . . . . | 236 |
| SUBCLINICAL DISSOCIATION . . . . .                     | 239 |
| FORENSIC IMPLICATIONS . . . . .                        | 240 |
| EXPANDING THE DISSOCIATIVE SPECTRUM? . . . . .         | 241 |
| THE RISE OF DEPERSONALIZATION DISORDER . . . . .       | 243 |
| BETWEEN CREDULITY AND SKEPTICISM . . . . .             | 243 |

## DISSOCIATIVE DISORDERS

The dissociative disorders include a wide variety of syndromes whose common core is an alteration in consciousness that affects memory and identity. In the Diagnostic and Statistical Manual (DSM; American Psychiatric Association 1994),

the nosological category includes five major entries:

- *Dissociative Amnesia*—formerly psychogenic amnesia: patients suffer a loss of autobiographical memory for certain past experiences.
- *Dissociative Fugue*—formerly psychogenic fugue: the amnesia covers the whole (or, at least, a large part) of the patient's life; it is also accompanied by a loss of personal identity and, in many cases, physical relocation (hence its name).
- *Dissociative Identity Disorder (DID)*—formerly multiple personality disorder (MPD): a single patient appears to possess and manifest two or more distinct identities (a “host personality” or “host” and one or more “alter egos,” “alters,” or “ego states”) that alternate in control over conscious experience, thought, and action, and typically are separated by some degree of amnesia.
- *Depersonalization Disorder*: patients believe that they have changed in some way, or are in some way no longer real (in *derealization*, the same beliefs are held about the patient's surrounding environment).
- *Dissociative Disorders Not Otherwise Specified*: patients display some dissociative symptoms, to some degree, but not to the extent that they qualify for one of the major diagnoses. This category includes certain culturally specific “spirit-possession” states, such as *amok* (in Indonesia), *latah* (Malaysia), and *ataque de nervios* (Latin America). It also includes Ganser syndrome—presumably on the assumption that the patient's vague and approximate answers to questions reflect some kind of memory disorder.

Although impairments of memory and consciousness feature prominently in certain neurological disorders, from the amnesic syndrome to concussion and coma, the dissociative disorders are “functional” in nature. This does not mean that they have no organic basis: All mental states and conditions are ultimately rooted in neural activity, and recent advances in brain-imaging technology offer the promise of revealing the neural correlates of the dissociative disorders. Rather, it means that the dissociative disorders are not instigated by some palpable insult, injury, or disease affecting the brain. For this reason, the dissociative disorders were historically grouped with the conversion disorders under the broad rubric of “hysteria.”

Historically, the dissociative disorders were also considered among the most rare forms of psychopathology. An exhaustive review (Taylor & Martin 1944) found only 76 cases reported between 1791 and 1944; almost 20 years later, an update added only a single case, the famous *Three Faces of Eve* (Sutcliffe & Jones 1962). Eve was followed by Evelyn (Osgood et al. 1976)—though Thigpen & Cleckley, who worked with Eve, reported that despite hundreds of referrals they never saw another valid case (Thigpen & Cleckley 1984).

However, the late 1970s and 1980s witnessed what might be thought of as an epidemic (Boor 1982, p. 302) of MPD, manifested in an avalanche of case

reports and case series, books, journal articles, and conferences devoted to the topic. For example, in contrast to the eight case reports of MPD published between 1944 and 1970, 36 were published between 1970 and 1979 (Greaves 1980). Putnam and his colleagues (Putnam et al. 1986, p. 286) developed a case registry of 100 cases “currently or recently in treatment” as of 1982, while Kluft (1984) analyzed outcomes for 171 patients who had been diagnosed with MPD. The International Society for the Study of Multiple Personality and Dissociation (renamed the International Society for the Study of Dissociation) held its first annual conference in 1984. Its official journal, *Dissociation*, first appeared in 1988 and was superseded in 2000 by the *Journal of Trauma and Dissociation*. The first scholarly monographs devoted to MPD also appeared at this time (Bliss 1986, Ross 1986).

The present review begins at this point, with an emphasis on work published since 1990 (the literature review for this article ended July 1, 2004). More comprehensive surveys, including much historical material, can be found elsewhere (Kihlstrom 1992, 1994, 2001; Kihlstrom et al. 1993; Lynn & Rhue 1994; Michelson & Ray 1996).

## DIAGNOSIS, ASSESSMENT, AND EPIDEMIOLOGY

The dissociative disorders were first labeled as such in the third edition of DSM (American Psychiatric Association 1980); before that, they were classified simply as forms of psychoneurosis or of hysteria. Unfortunately, when that edition of DSM was revised (American Psychiatric Association 1987), interpersonal amnesia was eliminated as a diagnostic feature of MPD—an error that may have contributed to the increasing frequency with which this once-rare condition was diagnosed. To some degree, this error was corrected in the fourth edition (American Psychiatric Association 1994), which also renamed MPD as DID, to emphasize the importance of changes in consciousness and identity, rather than personality. Without the criterion of amnesia, MPD (DID) is difficult to differentiate from atypical dissociative disorder (now called dissociative disorder not otherwise specified). But even with the criterion of amnesia reinstated, difficulties defining such terms as “personality,” “identity,” and “ego state”—not to mention “amnesia” itself—can inject an unacceptable level of subjectivity into the diagnosis.

Even with relatively strict criteria in place, it can be difficult to discriminate between the dissociative disorders and bipolar disorder, borderline personality disorder, and even schizophrenia. When enthusiastic clinicians are determined to find it, DID can be diagnosed merely from the normal situational variability of behavior, or instances where otherwise “normal” people just “don’t feel like themselves” (Piper 1995). This is especially the case if the clinician believes that DID is a “superordinate” diagnosis, such that presenting symptoms such as phobias, obsessions, and compulsions, which might normally call for a primary diagnosis of

anxiety disorder, can be attributed to one of a patient's alter egos instead (Putnam et al. 1984), or if it is believed that alter egos can appear only once in the patient's life, in order to perform some specific task, never to be manifest again (Bliss 1980, Kluft 1991).

Perhaps because they were considered rare, the dissociative disorders were not included in the Structured Clinical Interview for Diagnosis (SCID) developed in an effort to make psychiatric diagnoses more reliable (First et al. 1997, Spitzer et al. 1990). However, this omission was quickly corrected by development of a free-standing SCID protocol for dissociative disorders (SCID-D; Steinberg 1994, 1996; Steinberg et al. 1990). An alternative Dissociative Disorders Interview Schedule has also been developed (Ross et al. 1989), but the SCID-D has become the "gold standard" for diagnosis in this area. The Clinician-Administered Dissociative States Scale (Bremner et al. 1997), intended to measure episodic dissociative states, focuses on symptoms of depersonalization and derealization, and not the disruptions of memory and identity that lie at the core of the dissociative disorders.

A number of questionnaires have been developed for the assessment of dissociative tendencies in both clinical and research settings (Kihlstrom et al. 1994). The most popular of these is the Dissociative Experiences Scale (DES; Bernstein & Putnam 1986, Carlson & Putnam 1993), which has proved useful as an instrument for screening those who might be at risk for dissociative disorder (Carlson et al. 1993, Putnam et al. 1996). Alternative instruments include the Perceptual Alterations Scale (PAS; Sanders 1986), the Questionnaire on Experiences of Dissociation (Riley 1988), the Dissociation Questionnaire (DIS-Q; Vanderlinden et al. 1991), the Dissociative Processes Scale (DPS; Watson 2003), and the Mini-SCID-D (Steinberg et al. 1992). Although not all of these scales have been brought together in any single experiment, the available evidence indicates that all of them are strongly intercorrelated (Gleaves et al. 1995, Kihlstrom et al. 1994). However, except for the Mini-SCID-D, which is closely modeled on the SCID-D, all of them are also heavily loaded with absorption, a feature of normal personality reflecting the individual's tendency to alter consciousness by markedly narrowing or expanding his or her focus of attention and blurring the boundary between self and world (Roche & McConkey 1990, Tellegen & Atkinson 1974). Absorption, in turn, is related to the related to the "openness" dimension of the "Big Five" structure of personality (Glisky et al. 1991).

Good data on the incidence and prevalence of the dissociative disorders is hard to come by. These syndromes were excluded from the Epidemiological Catchment Area survey (Regier et al. 1984, Robins et al. 1984), presumably because of their assumed rarity, and the lack of appropriate standardized diagnostic instruments and criteria. At the height of clinical interest in the dissociative disorders, the Clinton administration's Task Force on Health Care Financing Reform received a report claiming a prevalence of dissociative disorder of "about ten percent in the general population" (Loewenstein 1994, p. 3), including a rate of 7% for psychogenic amnesia and 1.3% for multiple personality disorder. On the other hand, a study of a large acute psychiatric hospital, employing the SCID-D to diagnose DID, yielded an estimated rate of only 1% among recent admissions (Rifkin

et al. 1998). If this figure is representative, of course, the prevalence of DID in the population as a whole is likely to be considerably lower.

An interesting feature of the DID “epidemic” is an increase not just in the number of cases but also in the number of alter egos reported per case. In the classic literature, the vast majority of cases were of dual personality (Sutcliffe & Jones 1962, Taylor & Martin 1944). By contrast, most of the new cases compiled by Greaves (1980) presented at least three personalities; in two other series, the average number of alter egos was more than 13 (Kluft 1984, Putnam et al. 1986). As Kenny (1986) noted, it was almost as if there were some kind of contest to determine who could have (or be) the patient with the most alter egos. The famous Eve, of course, appeared to have three personalities (Osgood & Luria 1954, Thigpen & Cleckley 1954). But when popular and professional interest in MPD was stimulated by the case of Sibyl, who was reported to possess 16 different personalities (Schreiber 1973), Eve replied with her own account of her illness, eventually claiming 22 (Sizemore & Huber 1988). Despite the almost-infinite number of possible synaptic connections in the brain, one might say that the mind simply is not big enough to hold so many personalities. The proliferation of alter egos within cases, as well as the proliferation of cases, has been one of the factors leading to skepticism about the disorder itself.

Commonly used DES cut-scores identify some 5% to 15% of individuals in the general population as “at risk” for dissociative disorder (Kihlstrom et al. 1994)—a figure that is almost certainly inflated by the presence on the scale of many items tapping normal levels of absorption. A taxometric analysis of the DES (Waller et al. 1996) suggested that “approximately 3.3% of the general population belongs to a pathological dissociative taxon” (Waller & Ross 1997, p. 499) reporting frequent and profound experiences of amnesia and/or depersonalization. However, Watson (2003) found that assessments of the dissociative taxon showed extremely low test-retest reliability coefficients—casting the existence of a dissociative taxon itself into doubt. If consistent membership in the “pathological dissociative taxon” is the standard, dissociative disorder is present in about 1% of the college student population. Even if this figure is accurate, most cases are probably accounted for by depersonalization disorder, which, like DID, has also experienced an upsurge of recent interest (Simeon et al. 1998a). It should be remembered, however, that scales like the DES are intended for economical screening of large groups of subjects—a process that is likely to yield a substantial number of false positives. At best, they can identify individuals who might be at risk for dissociative disorder; any provisional diagnosis should be confirmed by structured diagnostic interviews such as the SCID-D.

## ETIOLOGY OF DISSOCIATIVE DISORDER

Historically, the dissociative disorders have been attributed to pathological levels of psychological stress, which are held to disrupt the normal integration of personality and mental life, so that some aspects of experience, thought, and action

are split off from consciousness—hence the term “dissociation.” Traditionally, for example, both dissociative amnesia and dissociative fugue are generally held to occur in response to some kind of trauma—traumatic stress being the “psychogenic” cause implied by their earlier labels. The “trauma-memory argument” (Kihlstrom 1995, 1996, 1997, 1998) asserts that trauma victims typically (often, sometimes) deploy psychological defenses such as repression or dissociation to block their awareness of the trauma. The resulting amnesia is psychogenic in nature, in that it is ostensibly either caused by the traumatic stress itself or by the defenses deployed against it. For example, van der Kolk (1994, van der Kolk & van der Hart 1991) has argued that traumatic stress interferes with the consolidation of a consciously accessible narrative memory, but enhances nonverbal, sensory, motor, and affective representations of the trauma. Similarly, Metcalfe & Jacobs have argued that the Yerkes-Dodson law predicts amnesia under high levels of emotional stress (Metcalfe & Jacobs 1996, 1998; see also Nadel & Jacobs 1998).

As it happens, a plausible traumatic origin can be identified in most cases of amnesia and fugue—for example, sexual assault (Eisen 1989, Kaszniak et al. 1988), physical assault (Glisky et al. 2004), or the death of a family member (Schacter et al. 1982). On the other hand, a trauma history is sometimes absent (Dalla Barba et al. 1997), as it was in the very first reported case of fugue, that of Ansel Bourne (James 1890/1980, Kenny 1986). The fact is, trauma is not difficult to find if one searches for it with a suitably broad definition of the concept (Harvey & Bryant 2002, McNally 2003). Even when the trauma seems unequivocal, there is the additional difficulty of showing that the trauma caused the amnesia, and explicating the psychological (not to mention neurological) mechanisms by which this might occur.

In the recent revival of interest in the dissociative disorders, DID is commonly attributed to prolonged, overwhelming trauma, particularly incest and other forms of childhood sexual abuse (Putnam et al. 1986, Spiegel 1984). However, the evidence in this respect consists entirely of retrospective self-reports made by the patients, often without any independent corroboration (Gleaves 1996). We do not know how much such reports reflect the patients’ vivid imagination, their implicit theories of their problems, or their therapists’ suggestions—including suggestions made while the patients are hypnotized (Frankel 1990; 1991a,b; 1993). Even when such corroboration is available, the extremely broad and flexible definition of trauma makes interpretation problematic. Moreover, this body of research rarely provides a comparison group of patients carrying other diagnoses (or, for that matter, non-patients) showing that such trauma is a *specific* causal factor in DID, as opposed to other syndromes (Piper 1995, 1997). The difficulties of attributing symptoms of any sort, dissociative or not, to childhood trauma are well known, and include obvious errors such as backward reasoning (Rind 2003, Sbraga & O’Donohue 2003) as well as more subtle problems caused by conditioning on the consequent (Dawes 1993). Even in the present state of the evidence, the simple fact is that DID and other dissociative disorders simply do not figure as prominent outcomes in the

literature on the effects of childhood physical and sexual abuse (Kendall-Tackett & Marshall 1998; Kendall-Tackett et al. 1993; Rind & Harrington 1995; Rind et al. 1998, 2000, 2001). The bottom line is that although it is plausible that the dissociative disorders have their origins in trauma, the presently available evidence for such an etiology is far from convincing.

## THE TRAUMA-MEMORY ARGUMENT

In this context, one of the most interesting features of the recent literature has been a vigorous debate concerning the validity of the trauma-memory argument itself. Proponents frequently cite the literature on disaster victims, combat, prisoners and torture victims, and victims and perpetrators of violent crime (e.g., Arrigo & Pezdek 1997, Brown et al. 1998, Gleaves et al. 2004, Schefflin & Brown 1996) as consistent with a clinical folklore that goes back to the writings of Janet and Freud in the nineteenth century. To the contrary, Pope and his colleagues (Pope et al. 1998, 2000) reviewed 63 studies of documented trauma victims, including more than 10,000 subjects, and failed to find even a single convincing case of amnesia for the traumatic event that could not be explained by organic factors, infantile and childhood amnesia, ordinary forgetting, or other normal memory processes. Most trauma victims remember their experiences all too vividly—an empirical fact that is consistent with what is known from the laboratory about arousal and memory (Cahill & McGaugh 1998). Whatever forgetting occurs appears not to be the product of psychological defenses such as repression or dissociation.

On the other hand, Brown and colleagues (1999) have argued that at least nine of the studies cited by Pope and his colleagues in fact do offer evidence for traumatic amnesia (see also Brown et al. 1998). However, re-examination of the evidence supports Pope's initial conclusions (Piper et al. 2000). For example, two individuals who were amnesic for a lightning strike were "side-flash" victims who received the equivalent of electroconvulsive shock; some of the children who were amnesic for a flood disaster were as young as two years at the time of the incident; and although approximately one third of older children who were earthquake survivors were reported as showing psychogenic amnesia for the event, more than two thirds of a control group of children who were not exposed to the trauma met the same criterion. One study (Cardena & Spiegel 1993) did report a high rate of dissociative symptoms, as measured by the DES, among those who experienced the Loma Prieta earthquake of 1989, but these were most likely common experiences of depersonalization and derealization; there was no evidence that any subject forgot the earthquake.

In the face of such evidence, the trauma-memory argument is sometime revised to take special note of trauma associated with incest and other childhood sexual abuse. For example, Terr (1991, 1994) has suggested that memory is enhanced for type I traumas involving single, surprising, well-defined events, whereas denial, psychic numbing, and dissociation create amnesia for type II traumas, such as

incest, which are repeated over an extended period of time. Similarly, Freyd (1994, 1996) has argued that memory is enhanced for “terror” traumas, such as combat, but impaired by dissociation for “betrayal” traumas, such as incest.

Each of these theories has its own set of problems (Shobe & Kihlstrom 1997), but the foremost problem is that there is no good evidence that childhood sexual abuse is associated with amnesia. In response to the critiques of the trauma-memory literature by Pope and his colleagues, Brown and his colleagues reviewed the literature on “naturally occurring dissociative or traumatic amnesia for childhood sexual abuse,” and concluded, “Not a single one of the 68 data-based studies failed to find it” (Brown et al. 1999, p. 126). Among the studies most frequently cited by proponents of the trauma-memory argument is a prospective study by Williams (1994a,b), which found that 38% of a group of women who had suffered documented sexual abuse as children failed to report it to an interviewer some 17 years later. On the other hand, the difficulties attending this type of research are well known (Kihlstrom 1995, 1996, 1998; Loftus et al. 1994; Pope & Hudson 1995a,b; Pope et al. 1998). For example, although Williams did have satisfactory independent corroboration of the traumatic events, she failed to distinguish between traumatic repression and ordinary time-dependent forgetting, infantile and childhood amnesia, or even a simple reluctance to report embarrassing memories to a stranger. This last problem is particularly acute when the events in question are embarrassing or otherwise upsetting, and often requires a clarification interview (Della Femina et al. 1990). Genuine memory failures are not commonly found in careful inquiries of individuals who were abused as children—so long as they were old enough to encode the memory properly in the first place (Goodman et al. 2003, Widom & Morris 1997, Widom & Shepard 1996).

In view of this body of evidence, theories that attempt to describe the psychological or biological processes by which trauma induces amnesia (Freyd 1996, Metcalfe & Jacobs 1998, Nadel & Jacobs 1998, van der Kolk 1994) appear to be rendered moot by the apparent fact that trauma-induced psychogenic amnesia occurs rarely, if at all. Even the widely discussed case study of Jane Doe (Corwin & Olafson 1997), sometimes presented as a compelling “existence proof” of traumatic amnesia and recovered memory, is in fact quite ambiguous (Loftus & Guyer 2002a,b). Genuine cases of dissociative amnesia, fugue, and dissociative identity disorder do appear to involve functional amnesia (Kihlstrom & Schacter 2000, Kopelman 1995), and it would not be surprising if some patients with dissociative disorder have histories of child sexual trauma. But there is no reason to think that either the syndromes themselves, or the amnesia that is symptomatic of them, are caused by trauma, repression, or dissociation.

Nor is there any reason to think that recovered memories of trauma are valid on their face, and not in need of corroboration. It should surprise no one if claims of recovered traumatic memories are occasionally corroborated (Cheit 1998, 1999; Schooler 2001). But the recovery of a traumatic memory, even one that is independently corroborated, does not by itself imply that the event was forgotten due to repression or dissociation (Piper 1999). Researchers must be careful to distinguish



between recoveries mediated by the lifting of repression or breaching of dissociation from other causes of remembering, including the normal effects of shifting retrieval cues, reminiscence effects, and hypermnnesia. The recovery of a forgotten trauma may be no different in kind from the recovery of one's memory for where one put the car keys, or the name of one's third-grade teacher. It is also important to distinguish between the recovery of a forgotten memory of trauma and a reinterpretation of an event that had always been remembered.

## TREATMENT OF DISSOCIATIVE DISORDERS

For all the increased attention devoted to the dissociative disorders over the past 20 years, not to mention the apparent increase in prevalence, it is remarkable that so little is known about their treatment. Aside from individual case reports, there appear to be no systematic empirical outcome studies of either dissociative amnesia or dissociative fugue (Loewenstein 1994, Maldonado et al. 2002). Following traditions that originated in wartime, clinicians sometimes employ barbiturate drugs (the "amytal interview" or "narcosynthesis") or hypnosis to stimulate the recovery of repressed or dissociated memories. Nevertheless, there are no systematic studies of the effectiveness of drugs in recovering valid memories (Piper 1993). Moreover, research offers no reason to think that hypnosis facilitates the recovery of repressed or dissociated memories, and every reason to think it can distort memory (Kihlstrom & Eich 1994). Memories recovered through these and similar techniques cannot be taken at face value, and must be subject to independent corroboration. Apparently, many cases of amnesia and fugue remit spontaneously, a process that perhaps can be helped along by presenting the patient with appropriate retrieval cues if they are available.

There is a more extensive literature on the treatment of DID (Loewenstein 1994, Maldonado et al. 2002). Although some examples of cognitive-behavioral therapy exist (Kirsch & Barton 1988), most current therapeutic approaches to DID are predicated on the notion that DID is caused by childhood trauma, such as sexual and physical abuse. Typically, the therapy is psychodynamic and insight-oriented, focusing on uncovering, abreacting, and working through the trauma and other conflictual issues presumed to underlie the disorder, and getting the patient to abandon dissociative defenses. The therapist also seeks to integrate the patient's alter egos into a single cohesive identity—meaning that therapeutic alliances must be established not only between each alter ego and the therapist, but also among the alter egos themselves.

Given these tasks, it is not surprising that the treatment of DID patients is arduous and uncertain. A pioneering study by Kluff (1984), employing a rigorous set of clinical criteria, found that 67% of 123 DID patients had achieved "fusion" for at least 3 months following approximately 2 years of intensive treatment, with 23% maintaining fusion for at least 27 months. The percentages increased with further treatment (Kluff 1986), so that a decade later 84% of the original sample

met a rigorous criterion for stable fusion (Kluft 1994). In another study, Ellason & Ross (1997) reported that 12 of 54 patients (from an original sample of 135) who could be contacted two years after treatment began had achieved a therapeutic goal of stable integration and reduced scores on the DES. Depending on how we count, this is a success rate of 9% to 22%.

Although the Ellason & Ross (1997) study did involve quantitative endpoints, the lack of a standard treatment protocol and of an untreated control group makes even these positive outcomes difficult to evaluate (Merskey & Piper 1998, Powell & Howell 1998; for a reply, see Ross & Ellason 1998). Equally critical is the absence of alternative treatments. For example, if there is no causal link between childhood sexual abuse and DID, then it would seem pointless to focus therapy on the recovery and working through of traumatic memories that may well be false or distorted. Moreover, the process of identifying, negotiating with, and integrating the patient's alter egos may actually encourage and reinforce dissociative symptomatology (Bowers 1991; Piper 1995, 1997)—a situation that may account for the increase in number of alter egos per DID case noted above. Accordingly, it would seem desirable to develop and test alternative therapeutic approaches that might minimize these risks and be more cost-effective.

## EXPERIMENTAL PSYCHOPATHOLOGY OF DISSOCIATION

As remarkable as the absence of controlled, or at least quantitative, outcome studies of DID is the dearth of experimental studies of the dissociative disorders. For example, there have been only a few attempts to document personality differences among a patient's alter egos with standardized personality testing. In both the Eve and Evelyn cases, the three alter egos all completed the semantic differential (Kroonenberg 1985, Osgood & Luria 1954, Osgood et al. 1976). In the Jonah case, each of five alter egos received the Wechsler Adult Intelligence Scale, the Minnesota Multiphasic Personality Inventory, and the Gough Adjective Check List (Brandsma & Ludwig 1974, Ludwig et al. 1972). A handful of other studies have used the Minnesota Multiphasic Personality Inventory or the Rorschach, mostly to confirm the clinical impression of personality. Psychophysiological measures (Putnam 1984), including brain-imaging methods (Tsai et al. 1999), have been put to much the same use (Merckelbach et al. 2002). Not surprisingly, most experimental research on the dissociative disorders has focused on memory functions in fugue and DID (Dorahy 2001; Kihlstrom & Schacter 1995, 2000; Kopelman 2002; Schacter & Kihlstrom 1989).

Testing of autobiographical memory indicates that the amnesia in fugue states is retrograde, not anterograde—that is, fugue patients are amnesic for premorbid events that occurred prior to the onset of the fugue state, but not for postmorbid events that occurred after the fugue began (Dalla Barba et al. 1997, Glisky et al. 2004, Kopelman et al. 1994, Schacter et al. 1982). After the fugue has remitted,

of course, memory for premorbid events is restored. However, the amnesia for premorbid events is replaced by one covering the fugue itself (Schacter et al. 1982). During the fugue state, access to semantic memory is generally preserved (Dalla Barba et al. 1997, Glisky et al. 2004; but see Kopelman et al. 1994, Schacter et al. 1982), except, of course, for semantic knowledge about the patient's own identity.

The fate of autobiographical memory in DID depends on which alter ego is being tested, and the pattern of interpersonality amnesia—symmetrical, with two alters unaware of each other, or asymmetrical, with one aware and the other not. In one case, testing revealed a profound childhood amnesia covering the first 14 years of the patient's life, suggesting that what initially appeared to be the host personality might instead be an alter ego that emerged during adolescence (Schacter et al. 1989). Unfortunately, circumstances precluded testing the memories of other alter egos. In another case, an adult alter ego showed the recency bias in autobiographical memory recall characteristic of normal performance, but a 9-year-old alter ego had no memories dated after age 12 (Bryant 1995). Coincidentally, this patient had also been tested before the DID diagnosis had been made. Before diagnosis, she had the usual distribution of childhood memories; after diagnosis, childhood memories were almost completely absent in the host personality, though they did appear in the child alter.

Note that in none of these studies was it possible to verify the memories reported by the patients in their various alter egos. However, studies employing standard verbal-learning paradigms have generally confirmed clinical impressions of interpersonality amnesia. That is, one alter ego is typically unable to recall or recognize words or pictures that had been studied by another (Eich et al. 1997b, Nissen et al. 1988). Directed forgetting effects are stronger between alter egos than within a single alter (Elzinga et al. 2001), though, interestingly, there were no differences between emotional and neutral stimulus materials.

The amnesias observed in fugue and DID affect conscious recollection, begging the question of the fate of implicit memories. Early experimental case studies, in fact, did suggest that implicit memories can transfer between personalities even when explicit memories do not (Dick-Barnes et al. 1987, Ludwig et al. 1972, Silberman et al. 1985). On the other hand, the first formal comparison yielded some complications (Nissen et al. 1988): Explicit memory generally did not transfer among eight mutually alter egos of a single DID patient; although some implicit tests showed transfer (priming in word- and picture-fragment completion, perceptual identification, and sequence learning), others did not (priming in word-stem completion, sentence interpretation, picture puzzles, and free association). Similarly, a study involving nine patients showed priming on picture-fragment completion, but not on word-fragment completion (Eich et al. 1997b); simulators did not show this same pattern of task performance (Eich et al. 1997a). Neither a single case of fugue (Kopelman et al. 1994) nor a study of four DID patients (Peters et al. 1998) found priming on a word-stem completion test. On the other hand, a study of directed forgetting involving 12 patients found preserved priming on

perceptual-identification and picture-fragment completion tasks (Elzinga et al. 2001). Thus, whether implicit memory is spared in interpersonality amnesia depends on the nature of the implicit memory test.

Interpretation of these and the earlier results is generally bedeviled by investigators' failure to settle on a common set of tasks from which a stable corpus of replicable results might emerge. It might be that implicit memory is spared on "structural" implicit memory tasks that are mediated by a perception-based representation of the stimulus material, but not on "semantic" tasks mediated by meaning-based representations. On the other hand, both word-stem and word-fragment completion are structural in nature, but they yield different results. Although superficially similar, word-stem completion tasks often allow a number of correct answers, whereas word-fragment completion tasks permit only one; accordingly, word-fragment completion is typically construed by subjects as a problem to be solved, whereas word-stem completion is typically perceived as something akin to free association. Future research should take account of both the precise nature of the implicit memory tasks and of subjects' attitude or mental set when performing them, as well as, perhaps, the relevance of the stimulus materials to the personality of the alter ego being tested.

The distinction between explicit and implicit memory proved crucial to understanding an unusual case of fugue in which the patient lost use of his native language (German), as well as his identity and fund of autobiographical memory (Glisky et al. 2004). In one experiment, this patient showed enhanced skin conductance responses to personally relevant material, such as the names of family and friends. In another, he performed perfectly on a task involving learning pairs of semantically related German and English words, compared to unrelated word pairs and pairs including German nonwords. He also showed faster response latencies in a lexical decision task involving German words, compared with English and German nonwords, while functional magnetic resonance imaging revealed a shift from frontal to parietal activity. On all three tests, behavioral and neuroimaging, German speakers instructed to simulate ignorance of German showed very different patterns of performance.

The dissociative disorders are functional in nature in that they are not instigated by brain insult, injury, and disease, but that does not mean that there are no neural correlates of dissociative pathology. The fact that the amnesias in the dissociative disorders are reversible marks them as disruptions of memory retrieval, as opposed to encoding or storage failures; the observed dissociations between explicit and implicit memory are also consistent with retrieval failure. According to one prominent theory, the encoding and retrieval of episodic memories preferentially activates the left and right prefrontal cortex, respectively (Habib et al. 2003, Nyberg et al. 1996). Accordingly, in functional amnesia we might expect to observe anomalies in the activity of right-hemisphere structures associated with memory processing. Broadly consistent with these suggestions, single photon emission computed tomography (Markowitsch et al. 1997a), positron emission tomography (Markowitsch et al. 1997b), and imaging in single cases of psychogenic amnesia

and fugue revealed diminished activity in right frontal and temporal structures during autobiographical memory tasks (Markowitsch 1999). Of course, the precise pattern of neuroimaging findings depends on the details of the particular case, such as whether the patient has lost conscious access to some or all autobiographical memory, the fate of semantic as well as episodic self-knowledge, and the presence of alter egos with their own funds of self-knowledge.

## SUBCLINICAL DISSOCIATION

A small body of research exists on “subclinical” dissociation, as measured in “normal” individuals such as college students by questionnaires such as the DES. For example, a twin study suggested that 45% of the variance in DES “taxon” scores was attributable to the shared environment, and 55% to the nonshared environment, with no variance left over to be accounted for by genes (Waller & Ross 1997). High DES scores may reflect subclinical levels of dissociative disorder, which do not qualify, in terms of intensity, frequency, or duration, for a formal clinical diagnosis. Alternatively, they may reflect an acquired diathesis factor that, when combined with adequate levels of stress, produces an acute episode of dissociative disorder. Although the DES is often used to screen individuals for possible dissociative disorder, there are no longitudinal studies testing the hypothesis that individuals with high scores on the DES are likely to develop a dissociative disorder later in life.

There is a small correlation between DES scores and self-reported trauma, including childhood physical and sexual abuse, in both student (e.g., DiTomasso & Routh 1993) and community samples (e.g., Mulder et al. 1998). A meta-analysis of college student studies by Rind et al. (1998, 2001) found that the association between self-reported dissociative symptoms and self-reported child sexual abuse is statistically significant but weak ( $r_u = 0.07$ ). Interestingly, however, DePrince & Freyd 2004 found the difference between high and low dissociators is greater for low-betrayal experiences, such as natural disasters, than it is for high-betrayal experiences, such as incest—a finding seemingly incompatible with Freyd’s (1996) betrayal-trauma theory of dissociation.

On the other hand, DES scores are also correlated, and usually more strongly, with fantasy proneness (e.g., Rauschenberg & Lynn 1995), false positives in recognition tests of memory (e.g., Merckelbach et al. 2000a), the associative memory illusion (e.g., Winograd et al. 1998), interrogative suggestibility (e.g., Merckelbach et al. 2000b), imagination inflation (e.g., Paddock et al. 1998), source-monitoring problems (e.g., Wilkinson & Hyman 1998), and the creation of pseudomemories (e.g., Hyman & Billings 1998). Setting aside the problems of inferring causation from correlation, such findings cast doubt on the link between dissociation and self-reported trauma (Merckelbach & Muris 2001, Tillman et al. 1994). In the subclinical as well as the clinical domain, the best evidence for any causal link will come from prospective studies.

Subjects who score high on the DES show increased levels of interference on a standard Stroop color-word task under typical selective-attention conditions (DePrince & Freyd 1999, Freyd et al. 1998), a finding that suggests that individuals who have a tendency toward dissociation also have difficulties in the deployment of attention. These same investigators found a numerical tendency toward reduced interference under divided-attention conditions, suggesting that high-scoring subjects are particularly good at dividing attention (DePrince & Freyd 1999). However, the statistical reliability of this difference is rather weak—only one comparison out of four was statistically significant, and that only by virtue of a one-tailed test; accordingly, the finding warrants replication before too much should be made of it.

The difference between selective and divided attention may also mediate the performance of high-scoring subjects on directed-forgetting tasks (DePrince & Freyd 2001, 2004). For example, DePrince & Freyd (2004) found that under divided-attention conditions high dissociators recalled fewer trauma-related words, and more neutral words, than did low dissociators; there was no such interaction under selective-attention conditions. However, this difference occurred only for to-be-remembered items. There were no group differences in performance for to-be-forgotten items, for either item type under either condition. This null finding is puzzling given the presumed ability of high dissociators to selectively forget trauma-related material. Again, such findings must be replicated and extended before too much theoretical weight is placed on them.

## FORENSIC IMPLICATIONS

The dissociative disorders pose interesting philosophical and procedural challenges for the legal system (Hacking 1995, Humphrey & Dennett 1989, Saks 1995). Defendants who are amnesic for the circumstances of a crime cannot assist in their own defense, and amnesic witnesses cannot offer testimony as to what may have happened to them. The fact that the amnesia is functional, and not linked to demonstrable brain insult, injury, or disease, raises the possibility of malingering. Memories ostensibly recovered through special techniques such as hypnosis or the amytal interview warrant independent corroboration, although most states permit courtroom testimony based on hypnotically recovered memories if the hypnotic procedure included certain safeguards to minimize the possibility of suggestion and to maximize the likelihood that any contamination will be detected (Brown et al. 1998, Laurence & Perry 1988, Schefflin & Shapiro 1989). Nor, of course, can dissociative symptoms be used to corroborate accusations of childhood physical and sexual abuse, on the theory that trauma and abuse cause dissociation. At best, that would be reasoning backward (Rind 2003, Sbraga & O'Donohue 2003); however, given that there is no good evidence for a traumatic etiology of DID or any other dissociative disorder, such a stance is simply inappropriate.

Defendants have occasionally raised the insanity defense based on a diagnosis of DID: Typically, the claim is that an alter ego committed the crime. Sometimes this

ploy succeeds, at least insofar as the defendant is committed to a mental hospital rather than jail, as in the famous case of Billy Milligan (Keyes 1981). Perhaps the most famous case, the Los Angeles “Hillside Strangler,” generated a vigorous debate among expert witnesses (Allison 1984, Orne et al. 1984, Watkins 1984): This was ultimately determined to be a case of malingering; the Hillside Strangler was convicted but he escaped the death penalty. Even in cases where a DID-based insanity defense is appropriate, the syndrome raises profound philosophical questions about personhood and personal responsibility: If one alter ego pleads guilty, can the other(s) be sentenced to jail? If one alter is insane, can the others be committed to a mental hospital—and can the others sign themselves out? Can a person with DID even enter into a valid legal contract, or consent to marry or have sex?

## EXPANDING THE DISSOCIATIVE SPECTRUM?

The appearance of the dissociative disorders as a separate category in DSM-III ratified their status as major forms of psychopathology. Looking toward DSM-V, some clinicians and researchers have proposed expansion of the category beyond the traditional quartet of amnesia, fugue, multiple personality, and depersonalization. For example, Dell (2001) has proposed expanding the list of features associated with DID to include hallucinations and Schneiderian first-rank symptoms. On the other hand, if these symptoms are indeed present in many DID patients, it may mean little more than that they are actually misdiagnosed schizophrenics.

Perhaps the most prominent proposal for revision is to classify the dissociative disorders as forms of post-traumatic stress disorder (PTSD; Putnam 1985, Spiegel 1984)—or, perhaps, to classify PTSD as essentially dissociative in nature. This view is predicated on the assumption that the dissociative disorders are reactions to high levels of emotional stress: Whereas the familiar symptomatology of PTSD entails vivid, intrusive memories of the stressful event, the dissociative disorders would represent a special case involving the *absence* of conscious recollection of the trauma. Alternatively, whereas the dissociative disorders entail a loss of conscious memory for trauma, the more familiar form of PTSD would be reconstrued as entailing a loss of conscious *control* over traumatic memories. Such a proposal is interesting, not least because the memory problems displayed by high dissociators are paralleled by some individuals with PTSD (Bremner et al. 2000; Clancy et al. 1999, 2000; McNally et al. 2004). But in view of the difficulties in demonstrating even a valid correlation between trauma and dissociation (Merckelbach & Muris 2001, Tillman et al. 1994), much less a causal link, this proposal is probably premature.

Another proposal is to move the conversion disorders from their present location in the somatoform disorders to the category of dissociative disorders (Kihlstrom 1992, 1994). The basis for this proposal is that the dissociative disorders are fundamentally disorders of consciousness, not of memory or identity. Patients

with dissociative disorder are not consciously aware of personal experiences and other aspects of self-knowledge that nonetheless remain available in memory, and implicitly influence their ongoing experience, thought, and action. Similarly, it appears that patients with conversion disorder, such as psychogenic or functional blindness and deafness, are not consciously aware of visual, auditory percepts, and show dissociations between explicit and implicit perception (e.g., Brady & Lind 1961, Bryant & McConkey 1989). The monosymptomatic pseudoneurological disorders of the sensory-motor system classified as conversion disorders have little in common with Briquet's syndrome, histrionic (hysterical) personality disorder, hypochondriasis, and the other medically unexplained syndromes that make up the rest of the somatoform category (Kihlstrom & Canter Kihlstrom 1999). Accordingly, the dissociative disorder category might be expanded to include three subcategories: dissociative disorders of memory, including the syndromes currently classified as dissociative disorders; dissociative disorders of sensation and perception, including psychogenic (or functional) blindness, deafness, and tactile anesthesia; and dissociative disorders of the motor system, including psychogenic (functional) paralysis and aphonia. Pigs will fly first, because, as one authority on the somatoform disorders once informed me, "The conversion disorders are the jewel in the crown of the somatoform disorders, and we will never let them go." Nevertheless, the proposal has the advantage of using "dissociative" as a purely descriptive term, referring to a disruption in conscious awareness, and abandons both "dissociation" and "conversion" as psychodynamic labels for pathological processes or psychological defense mechanisms. Instead, "dissociative" would be a purely descriptive label referring to the divisions in consciousness, and dissociations between explicit and implicit memory and perception, that are at the heart of both the dissociative and conversion disorders.

Along somewhat similar lines, Nijenhuis (2000) and his colleagues have proposed a distinction between psychological dissociation, involving memory and identity, and "somatoform" dissociation, involving various bodily functions such as pain, arousal, anorexia-bulimia, and alternating responses to medication, alcohol, and allergens, as well as more typical conversion symptoms such as functional blindness, deafness, and anesthesia. To this end, they have introduced various forms of a Somatoform Dissociation Questionnaire (SDQ; Nijenhuis et al. 1996) as a somatic complement to the DES. The primary rationale for this proposal is that patients with DID and Dissociative Disorder Not Otherwise Specified also have physical complaints, and that these complaints can alternate depending on the ego state which is presently active (Nijenhuis et al. 1998a, 1999). In addition, they note that many of the symptoms assessed by the SDQ have parallels in animal defensive reactions to predation and injury (Nijenhuis et al. 1998b), a point that fits nicely with the common (if unproven) assumption that the dissociative disorders are traumatic in origin. On the other hand, the distinction between psychological and somatoform forms of dissociation obscures the fundamental point that dissociative symptoms, reflecting disorders of conscious awareness, are always "psychological" in nature.



## THE RISE OF DEPERSONALIZATION DISORDER

The revival of MPD in the 1980s may have a parallel in the current upsurge of interest in depersonalization disorder (DPD; Simeon et al. 1997, 2003a; Simeon & Hollander 1993; Steinberg 1991). Once considered relatively rare (Sierra & Berrios 2001), DPD is now being diagnosed with increasing frequency. Like their counterparts with DID, patients with DPD are likely to score high on the DES (Simeon et al. 1998a), including the DES taxon (Simeon et al. 2003b); a new Depersonalization Severity Scale (Simeon et al. 2001b) has been developed specifically for the assessment of depersonalization disorder. Most of the current literature is descriptive in nature, although there have been a few forays into experimental (Guralnik et al. 2000) and brain-imaging (Phillips et al. 2001, Simeon et al. 2000) studies. DPD is sometimes successfully treated with anxiolytic or antidepressant drugs (e.g., Simeon et al. 1998b), but it is not clear whether the remission of depersonalization is a primary effect or secondary to the remission of anxiety or depression.

Of course, depersonalization is a well-known feature of a number of other syndromes, including anxiety disorder, obsessive-compulsive disorder, and depression—including the phobic-anxiety-depersonalization syndrome classically described by Roth (1959)—but in the case of DPD, depersonalization is the primary (and pervasive) symptom. Depersonalization is commonly observed in acute stress reactions (Cardena & Spiegel 1993) and a prominent theory links it to dysregulation along the hypothalamic-pituitary adrenal axis (Simeon et al. 2001a). DPD has also been related to a history of childhood trauma (Simeon et al. 2001c), but this etiological hypothesis is no more secure for DPD than it is for DID. Research on DPD, its origins, and its treatment is just in its infancy. However, the demonstrated linkage between acute stress and symptomatic depersonalization, combined with the persisting skepticism that surrounds DID, may lead clinicians and researchers interested in the trauma and the dissociative disorders to become more interested in DPS, and less interested in DID, as the future unfolds.

## BETWEEN CREDULITY AND SKEPTICISM

More than 200 years after the first published case study of multiple personality, more than a century after the syndromes were formally recognized by mental health professionals, and fully 20 years since the current revival of interest in them began, the dissociative disorders continue to invite controversy—even more controversy, perhaps, than post-traumatic stress disorder. The case of Sybil, which arguably marks the onset of the MPD “epidemic” of the 1980s and 1990s, has now been thoroughly discredited (Borch-Jacobsen 1997, 2002; Rieber 1999). According to Spanos (1994, p. 143; Spanos 1996), DID has nothing to do with dissociation and awareness, but rather is “socially constructed . . . context bounded, goal-directed, social behavior geared to the expectations of significant others.” Against a

reassertion of the traditional model involving defenses against childhood trauma (Gleaves 1996), other “sociocognitive” theorists have proposed that DID is “a syndrome that consists of rule-governed and goal-directed experiences and displays of multiple role enactments that have been created, legitimized, and maintained by social reinforcement” (Lilienfeld et al. 1999, p. 507; Lilienfeld & Lynn 2003). These social-psychological critiques have been echoed within both cultural criticism (Acocella 1999) and established psychiatry (McHugh 1995; Merskey 1992a,b; Piper 1995, 1997). Recent surveys suggest that more than half of American and Canadian psychiatrists harbor reservations about the validity of the diagnosis and its inclusion in the DSM (Lalonde et al. 2001, Pope et al. 1999).

On the other hand, the fact that dissociative symptomatology is embedded in the patient’s social context does not necessarily invalidate the diagnostic category itself. Even schizophrenia has a sociocultural overlay. Nor does the possibility that some—probably many, perhaps most—recent cases of DID and other dissociative disorders are iatrogenic or misdiagnosed mean that the occasional genuine case should not be taken seriously. As rare as they may be, the dissociative disorders provide a unique perspective on fundamental questions concerning consciousness, identity, the self, and the unity of personality. As complex as they surely are, they deserve to be studied in a spirit of open inquiry that avoids both the excessive credulity of the enthusiast and the dismissal of the determined skeptic.

**The Annual Review of Clinical Psychology is online at  
<http://clinpsy.annualreviews.org>**

#### LITERATURE CITED

- Acocella JR. 1999. *Creating Hysteria: Women and Multiple Personality*. San Francisco: Jossey-Bass
- Allison RB. 1984. Difficulties diagnosing the multiple personality syndrome in a death penalty case. *Int. J. Clin. Exp. Hypn.* 32:102–17
- American Psychiatric Association. 1980. *Diagnostic and Statistical Manual of Mental Disorders*. Washington, DC: Am. Psychiatr. Assoc. 3rd ed.
- American Psychiatric Association. 1987. *Diagnostic and Statistical Manual of Mental Disorders*. Washington, DC: Am. Psychiatr. Assoc. 3rd ed., rev.
- American Psychiatric Association. 1994. *Diagnostic and Statistical Manual of Mental Disorders*. Washington, DC: Am. Psychiatr. Assoc. 4th ed.
- Arrigo JM, Pezdek K. 1997. Lessons from the study of psychogenic amnesia. *Curr. Dir. Psychol. Sci.* 6:148–52
- Baddeley AD, Wilson BA, Watts FN, eds. 1995. *Handbook of Memory Disorders*. London: Wiley
- Bernstein EM, Putnam FW. 1986. Development, reliability, and validity of a dissociation scale. *J. Nerv. Ment. Dis.* 174:727–35
- Bliss EL. 1980. Multiple personalities: a report of 14 cases with implications for schizophrenia and hysteria. *Arch. Gen. Psychiatry* 37:1388–97
- Bliss EL. 1986. *Multiple Personality, Allied Disorders, and Hypnosis*. New York: Oxford
- Boor M. 1982. The multiple personality epidemic: additional cases and inferences regarding diagnosis, etiology, dynamics, and treatment. *J. Nerv. Ment. Dis.* 170:302–4
- Borch-Jacobsen M. 1997. Sybil—the making

- of a disease: an interview with Dr. Herbert Spiegel. *NY Rev. Books* 44:60–64
- Borch-Jacobsen M. 2002. *Folie à Plusieurs: De l'Hystérie à la Dépression*. Paris: Le Seuil
- Bowers KS. 1991. Dissociation in hypnosis and multiple personality disorder. *Int. J. Clin. Exp. Hypn.* 39:155–76
- Brady JP, Lind DI. 1961. Experimental analysis of hysterical blindness. *Arch. Gen. Psychiatry* 4:331–39
- Brandsma JM, Ludwig AM. 1974. A case of multiple personality: diagnosis and therapy. *Int. J. Clin. Exp. Hypn.* 22:216–33
- Bremner JD, Mazure D, Putnam FW, Marmar CR. 1997. *Clinician-Administered Dissociative States Scale*. West Haven, CT: West Haven VAMC.
- Bremner JD, Shobe KK, Kihlstrom JF. 2000. False memories in women with self-reported childhood sexual abuse: an empirical study. *Psychol. Sci.* 11:333–37
- Brown D, Schefflin AW, Hammond DC. 1998. *Memory, Trauma Treatment, and the Law*. New York: Norton
- Brown D, Schefflin AW, Whitfield CL. 1999. Recovered memories: the current weight of the evidence in science and in the courts. *J. Psychiatry Law* 27:5–156
- Bryant RA. 1995. Autobiographical memory across personalities in dissociative identity disorder: a case report. *J. Abnorm. Psychol.* 104:625–31
- Bryant RA, McConkey KM. 1989. Visual conversion disorder: a case analysis of the influence of visual information. *J. Abnorm. Psychol.* 98:326–29
- Cahill L, McGaugh JL. 1998. Mechanisms of emotional arousal and lasting declarative memory. *Trends Neurosci.* 21:294–99
- Cardena E, Spiegel D. 1993. Dissociative reactions to the San Francisco Bay area earthquake of 1989. *Am. J. Psychiatry* 150:474–78
- Carlson EB, Putnam FW. 1993. An update on the Dissociative Experiences Scale. *Dissociation* 6:16–27
- Carlson EB, Putnam FW, Ross CA, Torem M, Coons P, et al. 1993. Validity of the Dissociative Experiences Scale in screening for multiple personality disorder: a multicenter study. *Am. J. Psychiatry* 150:1030–36
- Cheit RE. 1998. Consider this, skeptics of recovered memory. *Ethics Behav.* 8:141–60
- Cheit RE. 1999. Junk skepticism and recovered memory: a reply to Piper. *Ethics Behav.* 9:295–318
- Clancy SA, McNally RJ, Schacter DL. 1999. Effects of guided imagery on memory distortion in women reporting recovered memories of childhood sexual abuse. *J. Trauma Stress* 12:559–69
- Clancy SA, Schacter DL, McNally RJ, Pitman RK. 2000. False recognition in women reporting recovered memories of sexual abuse. *Psychol. Sci.* 11:26–31
- Corwin DL, Olafson E. 1997. Videotaped discovery of a reportedly unrecalable memory of child sexual abuse: comparison with a childhood interview videotapes 11 years before. *Child Maltreat.* 2:91–112
- Dalla Barba G, Mantovan MC, Ferruzza E, Denes G. 1997. Remembering and knowing the past: a case study of isolated retrograde amnesia. *Cortex* 33:143–54
- Dawes RM. 1993. Prediction of the future versus an understanding of the past: a basic asymmetry. *Am. J. Psychol.* 106:1–24
- Dell PF. 2001. Why the diagnostic criteria for dissociative identity disorder should be changed. *J. Trauma Dissoc.* 2:7–37
- Della Femina D, Yeager CA, Lewis DO. 1990. Child abuse: adolescent records vs. adult recall. *Child Abuse Negl.* 14:227–31
- DePrince AP, Freyd JJ. 1999. Dissociative tendencies, attention, and memory. *Psychol. Sci.* 10:449–52
- DePrince AP, Freyd JJ. 2001. Memory and dissociative tendencies: the roles of attentional context and word meaning. *J. Trauma Dissoc.* 2:67–82
- DePrince AP, Freyd JJ. 2004. Forgetting trauma stimuli. *Psychol. Sci.* 15:488–92
- Dick-Barnes M, Nelson RO, Aine CJ. 1987. Behavioral measures of multiple personality: the case of Margaret. *J. Behav. Ther. Exp. Psychiatry* 18:229–39
- DiTomasso MJ, Routh DK. 1993. Recall of

- abuse in childhood and three measures of dissociation. *Child Abuse Negl.* 17:477–85
- Dorahy MJ. 2001. Dissociative identity disorder and memory dysfunction: the current state of experimental research and its future directions. *Clin. Psychol. Rev.* 21:771–95
- Eich E, Macaulay D, Lowenstein RJ, Dible PH. 1997a. Implicit memory, interpersonal identity amnesia, and dissociative identity disorder. In *Recollections of Trauma: Scientific Evidence and Clinical Practice*, ed. JD Read, DS Lindsay, pp. 469–74. New York: Plenum
- Eich E, Macaulay D, Lowenstein RJ, Dible PH. 1997b. Memory, amnesia, and dissociative identity disorder. *Psychol. Sci.* 8:417–22
- Eisen MR. 1989. Return of the repressed: hypnoanalysis of a case of total amnesia. *Int. J. Clin. Exp. Hypn.* 37:107–19
- Ellason JW, Ross CA. 1997. Two-year follow-up of inpatients with dissociative identity disorder. *Am. J. Psychiatry* 154:832–39
- Elzinga BM, Phaf RH, Ardon AM, Van Dyck R. 2001. Directed forgetting between, but not within, dissociative personality states. Univ. Amsterdam. Unpubl. manuscript.
- First MB, Spitzer RL, Gibbon M, Williams JBW. 1997. *Structured Clinical Interview for DSM-IV Axis I Disorders: Clinician Version: Administration Booklet*. Washington, DC: Am. Psychiatr. Press
- Frankel FH. 1990. Hypnotizability and dissociation. *Am. J. Psychiatry* 147:823–29
- Frankel FH. 1991a. Comments on hypnotizability and dissociation: reply. *Am. J. Psychiatry* 148:814–15
- Frankel FH. 1991b. Hypnotizability and dissociation: reply. *Am. J. Psychiatry* 148:1105–6
- Frankel FH. 1993. Adult reconstruction of childhood events in the multiple personality literature. *Am. J. Psychiatry* 150:954–58
- Freyd J. 1996. *Betrayal Trauma: The Logic of Forgetting Childhood Abuse*. Cambridge, MA: Harvard Univ. Press
- Freyd JJ. 1994. Betrayal trauma: traumatic amnesia as an adaptive response to childhood abuse. *Ethics Behav.* 4:307–29
- Freyd JJ, Martorello SR, Alvarado JS, Hayes AE, Christman JC. 1998. Cognitive environments and dissociative tendencies: performance on the standard Stroop task for high versus low dissociators. *Appl. Cogn. Psychol.* 12:S91–103
- Gleaves DH. 1996. The sociocognitive model of dissociative identity disorder: a reexamination of the evidence. *Psychol. Bull.* 120:42–59
- Gleaves DH, Eberenz KP, Fine CG. 1995. Measuring clinical and non-clinical dissociation: a comparison of the Dissociative Experiences Scale (DES) and the Questionnaire of Experiences of Dissociation (QED). *Dissociation* 8:24–31
- Gleaves DH, Smith SM, Butler LD, Spiegel D. 2004. False and recovered memories in the laboratory and clinic: a review of experimental and clinical evidence. *Clin. Psychol. Sci. Pract.* 11:3–28
- Glisky EL, Ryan L, Reminger S, Hardt O, Hayes SM, Hupbach A. 2004. A case of psychogenic fugue: I understand, aber ich verstehe nichts. *Neuropsychologia* 42:1132–47
- Glisky ML, Tataryn DJ, Tobias BA, Kihlstrom JF, McConkey KM. 1991. Absorption, openness to experience, and hypnotizability. *J. Personal. Soc. Psychol.* 60:263–72
- Goodman GS, Ghetti S, Quas JA, Edelstein RS, Alexander KW, et al. 2003. A prospective study of memory for child sexual abuse: new findings relevant to the repressed-memory controversy. *Psychol. Sci.* 14:113–18
- Greaves GB. 1980. Multiple personality: 165 years after Mary Reynolds. *J. Nerv. Ment. Dis.* 168:577–96
- Guralnik O, Schmeidler J, Simeon D. 2000. Feeling unreal: cognitive processes in depersonalization. *Am. J. Psychiatry* 157:103–9
- Habib R, Nyberg L, Tulving E. 2003. Hemispheric asymmetries of memory: the HERA model revisited. *Trends Cogn. Sci.* 7:241–45
- Hacking I. 1995. *Rewriting the Soul: Multiple Personality and the Science of Memory*. Princeton, NJ: Princeton Univ. Press
- Harvey AG, Bryant RA. 2002. Acute stress disorder: a synthesis and critique. *Psychol. Bull.* 128:886–902

- Humphrey N, Dennett DC. 1989. Speaking for our selves: an assessment of multiple personality disorder. *Raritan* 9:68–98
- Hyman IE, Billings FJ. 1998. Individual differences and the creation of false memories. *Memory* 6:1–20
- James DV. 1998. Multiple personality disorder in the courts: a review of the North American experience. *J. Forensic Psychiatry* 9:339–61
- James W. 1890/1980. *Principles of Psychology*. Cambridge, MA: Harvard Univ. Press
- Kasznik AW, Nussbaum PD, Berren MR, Santiago J. 1988. Amnesia as a consequence of male rape: a case report. *J. Abnorm. Psychol.* 97:100–4
- Kendall-Tackett KA, Marshall R. 1998. Sexual victimization of children: incest and child sexual abuse. In *Issues in Intimate Violence*, ed. RK Bergen, pp. 47–63. Thousand Oaks, CA: Sage
- Kendall-Tackett KA, Williams LM, Finkelhor D. 1993. Impact of sexual abuse on children: a review and synthesis of recent empirical studies. *Psychol. Bull.* 113:164–80
- Kenny MG. 1986. *The Passion of Ansel Bourne*. Washington, DC: Smithsonian. Inst. Press
- Keyes D. 1981. *The Minds of Billy Milligan*. New York: Random House
- Kihlstrom JF. 1992. Dissociative and conversion disorders. In *Cognitive Science and Clinical Disorders*, ed. JD Cohen, D Servan-Schreiber, pp. 247–70. San Diego, CA: Academic
- Kihlstrom JF. 1994. One hundred years of hysteria. See Lynn & Rhue 1994, pp. 365–94
- Kihlstrom JF. 1995. The trauma-memory argument. *Conscious. Cogn.* 4:63–67
- Kihlstrom JF. 1996. The trauma-memory argument and recovered memory therapy. In *The Recovered Memory/False Memory Debate*, ed. K Pezdek, WP Banks, pp. 297–311. San Diego, CA: Academic
- Kihlstrom JF. 1997. Suffering from reminiscences: exhumed memory, implicit memory, and the return of the repressed. In *Recovered Memories and False Memories*, ed. MA Conway, pp. 100–17. Oxford, UK: Oxford Univ. Press
- Kihlstrom JF. 1998. Exhumed memory. In *Truth in Memory*, ed. SJ Lynn, KM McConkey, pp. 3–31. New York: Guilford
- Kihlstrom JF. 2001. Dissociative disorders. In *Comprehensive Handbook of Psychopathology*, ed. PB Sutker, HE Adams, pp. 259–76. New York: Plenum
- Kihlstrom JF, Canter Kihlstrom L. 1999. Self, sickness, somatization, and systems of care. In *Self, Social Identity, and Physical Health: Interdisciplinary Explorations*, ed. RJ Contrada, RD Ashmore, pp. 23–42. New York: Oxford Univ. Press
- Kihlstrom JF, Eich E. 1994. Altering states of consciousness. In *Learning, Remembering, and Believing: Enhancing Performance*, ed. D Druckman, RA Bjork, pp. 207–48. Washington, DC: Natl. Acad. Press
- Kihlstrom JF, Glicks ML, Angiulo MJ. 1994. Dissociative tendencies and dissociative disorders. *J. Abnorm. Psychol.* 103:117–24
- Kihlstrom JF, Schacter DL. 1995. Functional disorders of autobiographical memory. See Baddeley et al. 1995, pp. 337–64
- Kihlstrom JF, Schacter DL. 2000. Functional amnesia. In *Handbook of Neuropsychology*, ed. F Boller, J Grafman, pp. 409–27. Amsterdam: Elsevier. 2nd ed.
- Kihlstrom JF, Tataryn DJ, Hoyt IP. 1993. Dissociative disorders. In *Comprehensive Handbook of Psychopathology*, ed. PB Sutker, HE Adams, pp. 203–34. New York: Plenum. 2nd ed.
- Kirsch I, Barton RD. 1988. Hypnosis in the treatment of multiple personality: a cognitive-behavioural approach. *Br. J. Exp. Clin. Hypn.* 5:131–37
- Kluft RP. 1984. Treatment of multiple personality disorder: a study of 33 cases. *Psychiatr. Clin. N. Am.* 7:9–29
- Kluft RP. 1986. Personality unification in multiple personality disorder: a follow-up study. In *Treatment of Multiple Personality Disorder*, ed. BG Braun, pp. 31–60. Washington, DC: Am. Psychiatr. Press
- Kluft RP. 1991. Clinical presentations of multiple personality disorder. *Psychiatr. Clin. N. Am.* 14:605–29

- Kluft RP. 1994. Treatment trajectories in multiple personality disorder. *Dissociation* 7:63–75
- Kopelman MD. 1995. The assessment of psychogenic amnesia. See Baddeley et al. 1995, pp. 427–48
- Kopelman MD. 2002. Psychogenic amnesia. In *The Handbook of Memory Disorders*, ed. AD Baddeley, MD Kopelman, BA Wilson, pp. 451–71. Chichester, UK: Wiley
- Kopelman MD, Christen H, Puffett A, Stanhope N. 1994. The great escape: a neuropsychological study of psychogenic amnesia. *Neuropsychologia* 32:675–91
- Kroonenberg PM. 1985. Three-mode principal components: analysis of semantic differential data. The case of a triple personality. *Appl. Psychol. Meas.* 9:83–94
- Lalonde JK, Hudson JI, Gigante RA, Pope HG. 2001. Canadian and American psychiatrists' attitudes toward dissociative disorders diagnoses. *Can. J. Psychiatry* 46:407–12
- Laurence J-R, Perry C. 1988. *Hypnosis, Will, and Memory: A Psycho-Legal History*. New York: Guilford
- Lilienfeld SO, Kirsch I, Sarbin TR, Lynn SJ, Chaves JF, et al. 1999. Dissociative identity disorder and the sociocognitive model: recalling the lessons of the past. *Psychol. Bull.* 125:507–23
- Lilienfeld SO, Lynn SJ. 2003. Dissociative identity disorder: multiple personalities, multiple controversies. In *Science and Pseudoscience in Clinical Psychology*, ed. SO Lilienfeld, SJ Lynn, pp. 109–42. New York: Guilford
- Loewenstein RJ. 1994. Diagnosis, epidemiology, clinical course, treatment, and cost effectiveness of treatment for dissociative disorders and MPD: report submitted to the Clinton Administration Task Force on Health Care Financing Reform. *Dissociation* 7:3–12
- Loftus EF, Garry M, Feldman J. 1994. Forgetting sexual trauma: What does it mean when 38% forget? *J. Consult. Clin. Psychol.* 62:1177–81
- Loftus EF, Guyer MJ. 2002a. Who abused Jane Doe? Part 1. *Skept. Inq.* 26:24–32
- Loftus EF, Guyer MJ. 2002b. Who abused Jane Doe? Part 2. *Skept. Inq.* 26:37–40
- Ludwig AM, Brandsma JM, Wilbur CB, Bendfeldt F, Jameson DH. 1972. The objective study of a multiple personality: Or, are two heads better than one? *Arch. Gen. Psychiatry* 26:298–310
- Lynn SJ, Rhue JW, eds. 1994. *Dissociation: Clinical and Theoretical Perspectives*. New York: Guilford
- Maldonado JR, Butler L, Spiegel D. 2002. Treatments for dissociative disorders. In *A Guide to Treatments That Work*, ed. PE Nathan, JM Gorman, pp. 463–96. New York: Oxford Univ. Press
- Markowitsch HJ. 1999. Functional neuroimaging correlates of functional amnesia. *Memory* 7:561–83
- Markowitsch HJ, Calabrese P, Fink GR, Durwen HF, Kessler J, et al. 1997a. Impaired episodic memory retrieval in a case of probable psychogenic amnesia. *Psychiatry Res. Neuroimaging* 74:119–26
- Markowitsch HJ, Fink GR, Thone A, Kessler J, Heiss W-D. 1997b. A PET study of persistent psychogenic amnesia covering the whole life span. *Cogn. Neuropsychiatry* 22:135–58
- McHugh PR. 1995. Resolved: multiple personality disorder is an individually and socially created artifact. Affirmative. *J. Am. Acad. Child Adolesc. Psychiatry* 34:957–62
- McNally RJ. 2003. Progress and controversy in the study of posttraumatic stress disorder. *Annu. Rev. Psychol.* 54:229–52
- McNally RJ, Clancy SA, Barrett HM, Parker HA. 2004. Reality monitoring in adults reporting repressed, recovered, or continuous memories of childhood sexual abuse. *J. Abnorm. Psychol.* In press
- Merckelbach H, Devilly GJ, Rassin E. 2002. Alters in dissociative identity disorder: metaphors or genuine entities? *Clin. Psychol. Rev.* 22:481–97
- Merckelbach H, Muris P. 2001. The causal link between self-reported trauma and dissociation: a critical review. *Behav. Res. Ther.* 39:245–54
- Merckelbach H, Muris P, Horselenberg R,

- Stougie S. 2000a. Dissociation, reality monitoring, and response bias. *Personal. Individ. Differ.* 28:49–58
- Merckelbach H, Muris P, Rassin E, Horselenberg R. 2000b. Dissociative experiences and interrogative suggestibility in college students. *Personal. Individ. Differ.* 29:1133–40
- Merskey H. 1992a. Manufacture of multiple personality disorder: reply. *Br. J. Psychiatry* 161:269–70
- Merskey H. 1992b. The manufacture of personalities: the production of multiple personality disorder. *Br. J. Psychiatry* 160:327–40
- Merskey H, Piper A. 1998. Treatment of dissociative identity disorder. *Am. J. Psychiatry* 155:1462–63
- Metcalfe J, Jacobs WJ. 1996. A “hot-system/cool-system” view of memory under stress. *PTSD Res. Q.* 7:1–3
- Metcalfe J, Jacobs WJ. 1998. Emotional memory: the effects of stress on “cool” and “hot” memory systems. In *The Psychology of Learning and Motivation: Advances in Theory and Research*, ed. D Medin, pp. 187–222. San Diego: Academic
- Michelson LK, Ray WJ, eds. 1996. *Handbook of Dissociation: Theoretical, Empirical, and Clinical Perspectives*. New York: Plenum
- Mulder RT, Beautrais AL, Joyce PR, Ferguson DM. 1998. Relationship between dissociation, childhood sexual abuse, childhood physical abuse, and mental illness in a general population sample. *Am. J. Psychiatry* 155:806–11
- Nadel L, Jacobs WJ. 1998. Traumatic memory is special. *Curr. Dir. Psychol. Sci.* 7:154–57
- Nijenhuis ERS. 2000. Somatoform dissociation: major symptoms of dissociative disorders. *J. Trauma Dissoc.* 1:7–32
- Nijenhuis ERS, Spinhoven P, Van Dyck R, van der Hart O, Vanderlinden J. 1996. The development and psychometric characteristics of the Somatoform Dissociation Questionnaire (SDQ-20). *J. Nerv. Ment. Dis.* 184:688–94
- Nijenhuis ERS, Spinhoven P, Vanderlinden J. 1998a. Degree of somatoform and psychological dissociation in dissociative disorder is correlated with reported trauma. *J. Trauma Stress* 11:711
- Nijenhuis ERS, Spinhoven P, Vanderlinden J, Van Dyck R. 1998b. Somatoform dissociative symptoms as related to animal defensive reactions to predatory imminence and injury. *J. Abnorm. Psychol.* 107:63–73
- Nijenhuis ERS, Van Dyck R, Spinhoven P, van der Hart O, Chatrou M, et al. 1999. Somatoform dissociation discriminates among diagnostic categories over and above general psychopathology. *Aust. NZ J. Psychiatry* 33:511–20
- Nissen MJ, Ross JL, Willingham DB, MacKenzie TB, Schacter DL. 1988. Memory and awareness in a patient with multiple personality disorder. *Brain Cogn.* 8:117–34
- Nyberg L, Cabeza R, Tulving E. 1996. PET studies of encoding and retrieval: the HERA model. *Psychon. Bull. Rev.* 3:135–48
- Orne MT, Dinges DF, Orne EC. 1984. On the differential diagnosis of multiple personality in the forensic context. *Int. J. Clin. Exp. Hypn.* 32:118–69
- Osgood CE, Luria Z. 1954. A blind analysis of a case of multiple personality using the semantic differential. *J. Abnorm. Soc. Psychol.* 49:579–91
- Osgood CE, Luria Z, Jeans RF, Smith SW. 1976. The three faces of Evelyn: a case report. I. An independently validated case of multiple personality [by RF Jeans]. II. A blind analysis of another case of multiple personality using the semantic differential technique [by CE Osgood, Z Luria, SW Smith]. III. Reactions to the blind analysis [by RF Jeans]. IV. A postscript to “The three faces of Evelyn” [by Z Luria, CE Osgood]. *J. Abnorm. Psychol.* 85:247–86
- Paddock JR, Joseph AL, Chan FM, Terranova S, Manning C, Loftus EF. 1998. When guided visualization procedures may backfire: imagination inflation and predicting individual differences in suggestibility. *Appl. Cogn. Psychol.* 12:S63–75
- Peters M, Uyterlinde SA, Consemulder J, van der Hart O. 1998. Apparent amnesia on experimental tests in dissociative identity

- disorder: an exploratory study. *Conscious. Cogn.* 7:27–41
- Phillips ML, Medford N, Senior C, Bullmore ET, Suckling J, et al. 2001. Depersonalization disorder: thinking without feeling. *Psychiatry Res. Neuroimaging* 108:145–60
- Piper A. 1993. “Truth serum” and “recovered memories” of sexual abuse: a review of the evidence. *J. Psychiatry Law* 21:447–71
- Piper A. 1995. A skeptical look at multiple personality disorder. In *Dissociative Identity Disorder: Theoretical and Treatment Controversies*, ed. LM Cohen, JN Berzoff, MR Elin, pp. 135–73. New York: Jason Aronson
- Piper A. 1997. *Hoax and Reality: The Bizarre World of Multiple Personality Disorder*. New York: Jason Aronson
- Piper A. 1999. A skeptic considers, then responds to Cheit. *Ethics Behav.* 9:277–93
- Piper A, Pope HG Jr, Borowiecki BS. 2000. Custer’s last stand: Brown, Schefflin, and Whitfield’s latest attempt to salvage “dissociative amnesia.” *J. Psychiatry Law* 28:149–213
- Pope HG Jr, Hudson JI. 1995a. Can individuals “repress” memories of childhood sexual abuse? An examination of the evidence. *Psychiatr. Ann.* 25:715–19
- Pope HG Jr, Hudson JI. 1995b. Can memories of childhood sexual abuse be repressed? *Psychol. Med.* 25:121–26
- Pope HG Jr, Hudson JI, Bodkin JA, Oliva P. 1998. Questionable validity of “dissociative amnesia” in trauma victims: evidence from prospective studies. *Br. J. Psychiatry* 172:210–15
- Pope HG Jr, Oliva PS, Hudson JI, Bodkin JA, Gruber AJ. 1999. Attitudes toward DSM-IV dissociative disorders diagnoses among board-certified American psychiatrists. *Am. J. Psychiatry* 156:321–23
- Pope HG Jr, Oliva PS, Hudson JI. 2000. Repressed memories: B. Scientific status. In *Modern Scientific Evidence: The Law and Science of Expert Testimony*, ed. DL Faigman, DH Kaye, MJ Saks, J Sanders, pp. 154–95. St. Paul, MN: West Publ.
- Powell RA, Howell AJ. 1998. Treatment outcome for dissociative identity disorder. *Am. J. Psychiatry* 155:1304–5
- Putnam FW. 1984. The psychophysiological investigation of multiple personality disorder. *Psychiatr. Clin. N. Am.* 7:31–39
- Putnam FW. 1985. Dissociation as a response to extreme trauma. In *Childhood Antecedents of Multiple Personality*, ed. RP Kluff, pp. 66–97. Washington, DC: Am. Psychiatr. Assoc. Press
- Putnam FW, Carlson EB, Ross CA, Anderson G, Clark P, et al. 1996. Patterns of dissociation in clinical and nonclinical samples. *J. Nerv. Ment. Dis.* 184:673–79
- Putnam FW, Guroff JJ, Silberman EK, Barban L, Post RM. 1986. The clinical phenomenology of multiple personality disorder: review of 100 recent cases. *J. Clin. Psychiatry* 47:285–93
- Putnam FW, Loewenstein RJ, Silberman EJ, Post RM. 1984. Multiple personality disorder in a hospital setting. *J. Clin. Psychiatry* 45:172–75
- Rauschenberg SL, Lynn SJ. 1995. Fantasy proneness, DSM-III-R Axis I psychopathology, and dissociation. *J. Abnorm. Psychol.* 104:373–80
- Regier DA, Myers JK, Kramer M, Robins LN, Blazer DG, et al. 1984. The NIMH Epidemiological Catchment Area program: historical context, major objectives, and study population characteristics. *Arch. Gen. Psychiatry* 41:934–41
- Rieber RW. 1999. Hypnosis, false memory, and multiple personality: a trinity of affinity. *Hist. Psychiatry* 10:3–11
- Rifkin A, Ghisalbert D, Dimatou S, Jin C, Sethi M. 1998. Dissociative identity disorder in psychiatric inpatients. *Am. J. Psychiatry* 155:844–45
- Riley KC. 1988. Measurement of dissociation. *J. Nerv. Ment. Dis.* 176:449–50
- Rind B. 2003. An elaboration on causation and positive cases in child sexual abuse. *Clin. Psychol. Sci. Pract.* 10:352–57
- Rind B, Tromovich P, Bauserman R. 1998. A meta-analytic examination of assumed



- properties of child sexual abuse using college samples. *Psychol. Bull.* 124:22–53
- Rind B, Tromovich P, Bauserman R. 2000. Condemnation of a scientific article: a chronology and refutation of the attacks and a discussion of threats to the integrity of science. *Sex. Cult.* 4:1–62
- Rind B, Tromovich P, Bauserman R. 2001. The validity and appropriateness of methods, analyses, and conclusions in Rid et al. 1998: a rebuttal of victimological critique from Ondersma et al. 2001 and Dallam et al. 2001. *Psychol. Bull.* 127:734–58
- Robins LN, Helzer JE, Weissman MM, Orvaschel H, Gruenberg E, et al. 1984. Lifetime prevalence of specific psychiatric disorders in three sites. *Arch. Gen. Psychiatry* 41:949–58
- Roche SM, McConkey KM. 1990. Absorption: nature, assessment, and correlates. *J. Personal. Soc. Psychol.* 59:91–101
- Ross CA. 1986. *Multiple Personality Disorder: Diagnosis, Clinical Features, and Treatment*. New York: Wiley
- Ross CA, Ellason JW. 1998. “Treatment of dissociative identity disorder”: Dr. Ross and Ms. Ellason reply. *Am. J. Psychiatry* 155:1462–63
- Ross CA, Heber S, Norton GR, Anderson D, Anderson G, Barchet P. 1989. The Dissociative Disorders Interview Schedule: a structured interview. *Dissociation* 2:169–89
- Roth M. 1959. The phobic anxiety-depersonalization syndrome. *Proc. R. Soc. Med.* 52: 587–95
- Saks ER. 1995. The criminal responsibility of people with multiple personality disorder. *Psychiatr. Q.* 66:119–31
- Sanders S. 1986. The Perceptual Alteration Scale: a scale measuring dissociation. *Am. J. Clin. Hypn.* 29:95–102
- Sbraga TP, O’Donohue W. 2003. Post hoc reasoning in possible cases of child sexual abuse: symptoms of inconclusive origins. *Clin. Psychol. Sci. Pract.* 10:320–34
- Schacter DL, Kihlstrom JF. 1989. Functional amnesia. In *Handbook of Neuropsychology*, ed. F Boller, J Graffman, pp. 209–31. Amsterdam: Elsevier
- Schacter DL, Kihlstrom JF, Kihlstrom LC, Berren MB. 1989. Autobiographical memory in a case of multiple personality disorder. *J. Abnorm. Psychol.* 98:508–14
- Schacter DL, Wang PL, Tulving E, Freedman M. 1982. Functional retrograde amnesia: a quantitative case study. *Neuropsychologia* 20:523–32
- Schefflin AW, Brown D. 1996. Repressed memory or dissociative amnesia: what the science says. *J. Psychiatry Law* 24:143–88
- Schefflin AW, Shapiro L. 1989. *Trance on Trial*. New York: Guilford
- Schooler JW. 2001. Discovering memories of abuse in the light of meta-awareness. *J. Aggress. Maltreat. Trauma* 4:105–36
- Schreiber FR. 1973. *Sybil: The True Story of a Woman Possessed by 16 Separate Personalities*. Chicago: Regnery
- Shobe KK, Kihlstrom JF. 1997. Is traumatic memory special? *Curr. Dir. Psychol. Sci.* 6: 70–74
- Sierra M, Berrios GE. 2001. The phenomenological stability of depersonalization: comparing the old with the new. *J. Nerv. Ment. Dis.* 189:629–36
- Silberman EK, Putnam FW, Weingartner H, Braun BG, Post RM. 1985. Dissociative states in multiple personality disorder: a quantitative study. *Psychiatry Res.* 15:253–60
- Simeon D, Gross S, Hollander E. 1997. Feeling unreal: 30 cases of DSM-III-R depersonalization disorder. *Am. J. Psychiatry* 154:1107–13
- Simeon D, Guralnik O, Gross S, Stein DJ, Schmeidler J, Hollander E. 1998a. The detection and measurement of depersonalization disorder. *J. Nerv. Ment. Dis.* 186:536–42
- Simeon D, Guralnik O, Hazlett EA, Spiegel-Cohen J, Hollander E, Buchsbaum MS. 2000. Feeling unreal: a PET study of depersonalization disorder. *Am. J. Psychiatry* 157:1782–88
- Simeon D, Guralnik O, Knutelska M, Hollander E, Schmeidler J. 2001a. Hypothalamic-pituitary-adrenal axis dysregulation in

- depersonalization disorder. *Neuropsychopharmacology* 25:793–95
- Simeon D, Guralnik O, Schmeidler J. 2001b. Development of a depersonalization severity scale. *J. Trauma Stress* 14:341–49
- Simeon D, Guralnik O, Schmeidler J, Sirof B, Knutelska M. 2001c. The role of childhood interpersonal trauma in depersonalization disorder. *Am. J. Psychiatry* 158:1027–33
- Simeon D, Hollander E. 1993. Depersonalization disorder. *Psychiatr. Ann.* 23:382–88
- Simeon D, Knutelska M, Nelson DA, Guralnik O. 2003a. Feeling unreal: a depersonalization disorder update of 117 cases. *J. Clin. Psychiatry* 64:990–97
- Simeon D, Knutelska M, Nelson DA, Guralnik O, Schmeidler J. 2003b. Examination of the pathological dissociation taxon in depersonalization disorder. *J. Nerv. Ment. Dis.* 191:738–44
- Simeon D, Stein DJ, Hollander E. 1998b. Treatment of depersonalization disorder with clomipramine. *Biol. Psychiatry* 44:302–3
- Sizemore CC, Huber RJ. 1988. The 22 faces of Eve. *Individ. Psychol.* 44:53–62
- Spanos NP. 1994. Multiple identity enactments and multiple personality disorder: a sociocognitive perspective. *Psychol. Bull.* 116:143–65
- Spanos NP. 1996. *Multiple Identities and False Memories: A Sociocognitive Perspective*. Washington, DC: Am. Psychol. Assoc.
- Spiegel D. 1984. Multiple personality as a post-traumatic stress disorder. *Psychiatr. Clin. N. Am.* 7:101–10
- Spitzer RL, Williams JBW, Gibbon M, First MB. 1990. *Structured Clinical Interview for DSM-III-R*. Washington, DC: Am. Psychiatr. Assoc. Press
- Steinberg M. 1991. The spectrum of depersonalization: assessment and treatment. In *Psychiatric Update*, ed. A Tasman, pp. 236–60. Washington, DC: Am. Psychiatr. Assoc. Press
- Steinberg M. 1994. *Interviewer's Guide to the Structured Clinical Interview for DSM-IV Dissociative Disorders-Revised (SCID-D-R)*. Washington, DC: Am. Psychiatr. Assoc. Press
- Steinberg M, Rounsaville B, Buchanan J, Cicchetti D. 1992. *The Mini-Structured Clinical Interview for DSM-IV Dissociative Disorders: A New Screening Tool for Dissociative Symptoms and Disorders*. Yale Univ. School Med. Unpubl. manuscript.
- Steinberg M, Rounsaville B, Cicchetti D. 1990. The Structured Clinical Interview for DSM-III-R Dissociative Disorders: preliminary report on a new diagnostic instrument. *Am. J. Psychiatry* 147:76–82
- Steinberg MJ. 1996. The psychological assessment of dissociation. In *Handbook of Dissociation: Theoretical, Empirical, and Clinical Perspectives*, ed. LK Michaelson, WJ Ray, pp. 251–68. New York: Plenum
- Sutcliffe JP, Jones J. 1962. Personal identity, multiple personality, and hypnosis. *Int. J. Clin. Exp. Hypn.* 10:231–69
- Taylor WS, Martin MF. 1944. Multiple personality. *J. Abnorm. Soc. Psychol.* 39:281–300
- Tellegen A, Atkinson G. 1974. Openness to absorbing and self-altering experiences (“absorption”), a trait related to hypnotic susceptibility. *J. Abnorm. Psychol.* 83:268–77
- Terr L. 1991. Childhood traumas: an outline and overview. *Am. J. Psychiatry* 148:10–20
- Terr L. 1994. *Unchained Memories: True Stories of Traumatic Memories, Lost and Found*. New York: Basic Books
- Thigpen CH, Cleckley H. 1954. A case of multiple personality. *J. Abnorm. Soc. Psychol.* 135–51
- Thigpen CH, Cleckley H. 1984. On the incidence of multiple personality disorder. *Int. J. Clin. Exp. Hypn.* 32:63–66
- Tillman JG, Nash MR, Lerner PM. 1994. Does trauma cause dissociative pathology? See Lynn & Rhue 1994, pp. 395–414
- Tsai GE, Condie D, Wu MT, Cheng I. 1999. Functional magnetic resonance imaging of personality switches in a woman with dissociative disorders. *Harv. Rev. Psychiatry* 1:253–65
- van der Kolk BA. 1994. The body keeps the

- score: memory and the evolving psychobiology of posttraumatic stress. *Harv. Rev. Psychiatry* 1:253–65
- van der Kolk BA, van der Hart O. 1991. The intrusive past: the flexibility of memory and the engraving of trauma. *Am. Imago* 48:425–54
- Vanderlinden J, Van Dyck R, Vandereycken W, Vertommen H. 1991. Dissociative experiences in the general population in the Netherlands and Belgium: a study with the Dissociative Questionnaire (DIS-Q). *Dissociation* 4:180–84
- Waller NG, Putnam FW, Carlson EB. 1996. Types of dissociation and dissociative types: a taxometric analysis of dissociative experiences. *Psychol. Methods* 1:300–21
- Waller NG, Ross CA. 1997. The prevalence and biometric structure of pathological dissociation in the general population: taxometric and behavior genetic findings. *J. Abnorm. Psychol.* 106:499–510
- Watkins JG. 1984. The Bianchi (Los Angeles Hillside Strangler) case: sociopath or multiple personality? *Int. J. Clin. Exp. Hypn.* 32: 67–101
- Watson D. 2003. Investigating the construct validity of the dissociative taxon: stability analyses of normal and pathological dissociation. *J. Abnorm. Psychol.* 112:298–305
- Widom CS, Morris S. 1997. Accuracy of adult recollections of childhood victimization. Part 2: childhood sexual abuse. *Psychol. Assess.* 9:34–46
- Widom CS, Shepard RL. 1996. Accuracy of adult recollections of childhood victimization. Part 1: childhood physical abuse. *Psychol. Assess.* 8:412–21
- Wilkinson C, Hyman IE. 1998. Individual differences related to two types of memory errors: Word lists may not generalize to autobiographical memory. *Appl. Cogn. Psychol.* 12:S29–46
- Williams LM. 1994a. Recall of childhood trauma: a prospective study of women's memories of child sexual abuse. *J. Consult. Clin. Psychol.* 62:1167–78
- Williams LM. 1994b. What does it mean to forget child sexual abuse? A reply to Loftus, Garry, and Feldman 1994. *J. Consult. Clin. Psychol.* 62:1182–86
- Winograd E, Peluso JP, Glover TA. 1998. Individual differences in susceptibility to memory illusions. *Appl. Cogn. Psychol.* 12:S5–27



## CONTENTS

---

|   |     |
|---|-----|
| A HISTORY OF CLINICAL PSYCHOLOGY AS A PROFESSION IN AMERICA<br>(AND A GLIMPSE AT ITS FUTURE), <i>Ludy T. Benjamin, Jr.</i>  | 1   |
| STRUCTURAL EQUATION MODELING: STRENGTHS, LIMITATIONS,<br>AND MISCONCEPTIONS, <i>Andrew J. Tomarken and Niels G. Waller</i>  | 31  |
| CLINICAL JUDGMENT AND DECISION MAKING, <i>Howard N. Garb</i>  | 67  |
| MOTIVATIONAL INTERVIEWING, <i>Jennifer Hettema, Julie Steele,<br/>and William R. Miller</i>   | 91  |
| STATE OF THE SCIENCE ON PSYCHOSOCIAL INTERVENTIONS FOR<br>ETHNIC MINORITIES, <i>Jeanne Miranda, Guillermo Bernal, Anna Lau,<br/>Laura Kohn, Wei-Chin Hwang, and Teresa La Fromboise</i> | 113 |
| CULTURAL DIFFERENCES IN ACCESS TO CARE, <i>Lonnie R. Snowden<br/>and Ann-Marie Yamada</i>   | 143 |
| COGNITIVE VULNERABILITY TO EMOTIONAL DISORDERS,<br><i>Andrew Mathews and Colin MacLeod</i>  | 167 |
| PANIC DISORDER, PHOBIAS, AND GENERALIZED ANXIETY DISORDER,<br><i>Michelle G. Craske and Allison M. Waters</i>   | 197 |
| DISSOCIATIVE DISORDERS, <i>John F. Kihlstrom</i>  | 227 |
| THE PSYCHOBIOLOGY OF DEPRESSION AND RESILIENCE TO STRESS:<br>IMPLICATIONS FOR PREVENTION AND TREATMENT,<br><i>Steven M. Southwick, Meena Vythilingam, and Dennis S. Charney</i>         | 255 |
| STRESS AND DEPRESSION, <i>Constance Hammen</i>  | 293 |
| THE COGNITIVE NEUROSCIENCE OF SCHIZOPHRENIA, <i>Deanna M. Barch</i>   | 321 |
| CATEGORICAL AND DIMENSIONAL MODELS OF PERSONALITY<br>DISORDER, <i>Timothy J. Trull and Christine A. Durrett</i>   | 355 |
| THE DEVELOPMENT OF PSYCHOPATHY, <i>Donald R. Lynam<br/>and Lauren Gudonis</i>   | 381 |
| CHILD MALTREATMENT, <i>Dante Cicchetti and Sheree L. Toth</i>   | 409 |
| PSYCHOLOGICAL TREATMENT OF EATING DISORDERS, <i>G. Terence Wilson</i>   | 439 |
| GENDER IDENTITY DISORDER IN CHILDREN AND ADOLESCENTS,<br><i>Kenneth J. Zucker</i>   | 467 |

|  |     |
|--|-----|
| THE DEVELOPMENT OF ALCOHOL USE DISORDERS, <i>Kenneth J. Sher, Emily R. Grekin, and Natalie A. Williams</i>                             | 493 |
| DECISION MAKING IN MEDICINE AND HEALTH CARE, <i>Robert M. Kaplan and Dominick L. Frosch</i>  | 525 |
| PSYCHOLOGY, PSYCHOLOGISTS, AND PUBLIC POLICY, <i>Katherine M. McKnight, Lee Sechrest, and Patrick E. McKnight</i>                      | 557 |
| COGNITIVE APPROACHES TO SCHIZOPHRENIA: THEORY AND THERAPY, <i>Aaron T. Beck and Neil A. Rector</i>                                     | 577 |
| STRESS AND HEALTH: PSYCHOLOGICAL, BEHAVIORAL, AND BIOLOGICAL DETERMINANTS, <i>Neil Schneiderman, Gail Ironson, and Scott D. Siegel</i> | 607 |
| POSITIVE PSYCHOLOGY IN CLINICAL PRACTICE, <i>Angela Lee Duckworth, Tracy A. Steen, and Martin E. P. Seligman</i>                       | 629 |
| INDEX  |     |
| Subject Index  | 653 |